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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/511,264

10/19/2004

Thomas Margaria

04179

4304

23338 7590 03/09/2007

DENNISON, SCHULTZ & MACDONALD

1727 KING STREET

SUITE 105

ALEXANDRIA, VA 22314

EXAMINER

MAI, NGOCLAN THI

ART UNIT

PAPER NUMBER

1742

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

03/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/511,264 | Applicant(s) MARGARIA, THOMAS | |
| | Examiner Ngoclan T. Mai | Art Unit 1742 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment filed 12/14/06 has been entered. Claims 1-12 has been canceled and rewritten as new claims 13-24.

Response to Arguments

2. Applicant's arguments filed 12/14/06 have been carefully considered but they are not persuasive.

(a) Applicant's essentially argues with respected to now claims 13-22 and 24 that the combination of Hilaire et al. and Gorgerino et al. is not obvious because Gorgerino et al does not discloses or suggest the use of lanthanum in an inoculating alloy comprising bismuth, lead and/or antimony and the effect of lanthanum could not be foreseen by one of ordinary skill in the art, page 5.

The examiner must disagrees in that Hilaire et al (primary reference) discloses a ferroalloy for inoculation of cast metal comprising from 0.005 to 3% by weight of at least one metal of **rare earth group** and from 0.05 to 3% by weight of at least one of element taken from the group consisting of Bi, Pb and Sb, the remainder being essentially silicon and the balance Fe, col. 2, lines 11-19. Hilaire et al teaches the rare earth selected is mischmetal which is known and also taught by Gorgerino et al is comprised of La and Ce with cerium in higher percentage, Gorgerino et al., col. 6, l. 9-12. Gorgerino et al. applied as secondary reference is relied on the teaching of high amount of lanthanum as compare to cerium, i.e., 90% or more (col. 1, l. 13-25 and col. 2, l. 42-53) in the inoculating alloy to reduce defects of the iron-based alloy such as pinholes, cavities or shrinkage holes and carbides in the spheroidal graphite cast-iron. Gorgerino et al also teaches it is known that cerium is employed to oppose the possible effect of Pb, Bi and As elements, all of which are

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antinodulizing elements, col. 1, l. 57-60. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the mischmetal of Hilaire et al. with rare earth material that comprises both cerium and lanthanum with lanthanum in higher amount as taught by Gorgerino et al for reducing pinholes, cavities or shrinkage holes and carbides in the spheroidal graphite cast-iron and also reducing the antinodulizing effect of Bi, Pb and As.

(b) As for the argument regarding now claims 13-16, 19-20, 22 and 24 as being unpatentable under 35 USC 103(a) over Margaria et al in view of Gorgerino et al, Applicant's arguments that Gorgerino et al discloses the use of antimony alone and not in combination with bismuth, lead and/or antimony and does not disclose or suggest that in such combinations, the lanthanum should make up at least 90% by weight of the rare earth metals have been carefully considered but they are too not persuasive. Gorgerino et al. applied as secondary reference is relied on the teaching of rare earth material with high amount of lanthanum as compare to cerium, i.e., 90% or more (col. 1, l. 13-25 and col. 2, l. 42-53) in the inoculating alloy to reduce defects of the iron-based alloy such as pinholes, cavities or shrinkage holes and carbides in the spheroidal graphite cast-iron. For this reason it would have been obvious to one of ordinary skill in the art at the time the invention was made that the rare earth metal of Margaria be made with high amount of lanthanum for reducing pinholes, cavities or shrinkage holes and carbides in the spheroidal graphite cast-iron as taught by Gorgerino et al.

3. For the above reasons claims are rejected as follows:

Claims 13-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hilaire et al. (U.S. Patent No. 4,432,793) in view of Gorgerino et al. (U.S. Patent No. 4,290,805) and Williamson (U.S. Patent No. 5,580,401). The rejection was made in previous office action paragraph number 3 and is incorporated herein by reference.

Claims 13-16, 19-20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margaria et al (U.S. Patent No. 5,733,502) in view of Gorgerino et al. (U.S. Patent No. 4,290,805). The rejection was made in previous office action paragraph number 5 and is incorporated herein by reference.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hilaire et al. (U.S. Patent No. 4,432,793) in view of Gorgerino et al and Craig et al. (US Publ. 2003/0126946). The rejection was made in previous office action paragraph number 4 and is incorporated herein by reference.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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